This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (previously presented) An optically pumped semiconductor laser component, comprising:

a multilayer structure including a mirror structure surmounted by a multilayer semiconductor gain-structure having an emitting surface; and

at least a first heat conducting element having a high thermal conductivity and having first and second opposite surfaces, said heat-conducting element being pressure contact bonded in a manner to remain fixed without adhesive after the pressure has been removed via said first surface thereof to one of said mirror structure and the emitting surface of said gain-structure.

2. (original) The component of claim 1, wherein the thermal conductivity of said first heat conducting element is greater than the thermal conductivity of copper.

3. (original) The component of claim 1, wherein said first heat conducting element is contact bonded to said mirror structure.

4. (original) The component of claim 3, wherein said mirror structure is a multilayer semiconductor structure.

5. (original) The component of claim 3, wherein said mirror structure is a multilayer dielectric structure.

6. (original) The component of claim 3, wherein said mirror structure includes a metal layer and one or more dielectric layers.

7. (previously presented) The component of claim 3, further including a second heat-conducting element having first and second opposite surfaces, said first surface of said second

heat conducting element being pressure contact bonded without adhesive to said emitting surface of gain-structure.

8. (original) The component of claim 7, wherein said gain-structure emits light at a laser wavelength in response to being optically pumped by light having a pump wavelength, and said second heat conducting element is transparent to said pump wavelength and said laser wavelength.

9. (original) The component of claim 8, wherein said second heat conducting element is one of a diamond element and a sapphire element.

10. (original) The component of claim 1, wherein said first heat-conducting element is a diamond element.

11. (original) The component of claim 10, wherein said second surface of said first heat-conducting element is in thermal contact with a heat sink.

12. (original) The component of claim 11, wherein said heat sink is a copper heat sink.

13. (previously presented) The component of claim 1, wherein said first surface of said first heat conducting element is contact bonded to the emitting surface of said gain-structure.

14. (previously presented) The component of claim 13, wherein said gain-structure emits light at a laser wavelength in response to being optically pumped by light having a pump wavelength, and said first heat first conducting element is transparent to said pump wavelength and said laser wavelength.

15. (previously presented) The component of claim 14, wherein said first heat conducting element is one of a diamond element and a sapphire element.

16. (previously presented) An optically pumped semiconductor laser component, comprising:

a multilayer structure including a mirror structure surmounted by a multilayer semiconductor gain-structure having an emitting surface; and

at a diamond heat spreader element having first and second opposite surfaces, said heat spreader element being pressure contact bonded in a manner to remain fixed without adhesive after the pressure has been removed via said first surface thereof to one of said mirror structure and the emitting surface of said gain-structure.

17. (original) The component of claim 16, wherein said heat spreader element is contact bonded to said mirror structure.

18. (original) The component of claim 16, wherein said diamond heat spreader element is formed from one of crystal diamond or CVD diamond.

19. (previously presented) A method of mounting an optically pumped semiconductor structure on a heat sink, comprising the steps of:

providing a heat spreader element having first and second opposite surfaces and having thermal conductivity higher than the thermal conductivity of the heat sink;

applying pressure to contact bond the optically pumped semiconductor structure to said first surface of said heat spreader element in a manner to remain fixed without an adhesive after the pressure has been removed; and

bonding said second surface of said heat spreader element to the heat sink.

20. (original) The method of claim 19, wherein said second surface of said heat spreader element is bonded to the heat sink by solder bonding.

21. (previously presented) A method of mounting an optically pumped semiconductor structure on a heat spreader element, comprising the steps of:

growing a multilayer semiconductor gain-structure on a substrate;

growing a mirror structure on said gain-structure;

applying pressure to contact bond a surface of the heat spreader element to said mirror structure in a manner to remain fixed without an adhesive after the pressure has been removed; and

etching away said substrate to expose said gain-structure.